

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 2 of 12

Attorney's Docket No.: 10559-614001 / P12853

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of managing queue entries, comprising:  
storing addresses corresponding to one of a plurality of data buffers having a corresponding number of cells in a first queue entry configured as a circular linked list comprising a plurality of Buffer Descriptor Address (BDA) entries, wherein the first BDA entry points to a subsequent BDA entry and to a final BDA entry, each of the ~~stored addresses~~ plurality of BDA entries of the circular linked list includes one of the data buffer addresses and an associated referring to a stored data buffer and including a cell count that indicates [[a]] the corresponding number of cells contained in the corresponding data buffer,  
retrieving a first address from the first queue entry; and  
modifying the linked list of addresses of the first queue entry based on the cell count of the first address retrieved, including decrementing the cell count of the first address each time the first address is retrieved.
2. (Canceled)
3. (Previously presented) The method of claim 1, further comprising:  
determining the cell count is zero.
4. (Original) The method of claim 3, wherein storing addresses further comprises:  
setting the first address as the head address of the first queue entry; and  
linking a second address to the first address of the first queue entry.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 3 of 12

Attorney's Docket No.: 10559-614001 / P12853

5. (Original) The method of claim 4, wherein linking the second address to the first address further comprises:  
setting the second address as a tail address of the first queue entry.
6. (Original) The method of claim 5, further comprising:  
linking a third address to the first queue entry by storing the third address in the location indicated by the tail address.
7. (Currently amended) The method of claim 5, further comprising:  
incrementing a queue count indicating the number of BDA entries included in the queue entry each time an address is linked to the first queue entry.
8. (Original) The method of claim 4, wherein the first queue entry is stored as part of a queue array having a plurality of linked queue entries.
9. (Currently amended) An article comprising a machine-readable medium that stores machine-executable instructions for managing a queue array, the instructions causing a machine to:  
store addresses corresponding to one of a plurality of data buffers having a corresponding number of cells in a first queue entry configured as a circular linked list comprising a plurality of Buffer Descriptor Address (BDA) entries, wherein the first BDA entry points to a subsequent BDA entry and to a final BDA entry, each of the ~~stored addresses~~ plurality of BDA entries of the circular linked list includes one of the data buffer addresses and an associated referring to a stored data buffer and including a cell count that indicates [[a]] the corresponding number of cells contained in the corresponding data buffer;  
retrieve a first address from the first queue entry; and  
modify the linked list of addresses of the first queue entry based on the cell count of the first address retrieved, including decrementing the cell count of the first address each time the first address is retrieved.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 4 of 12

Attorney's Docket No.: 10559-614001 / P12853

10. (Canceled)

11. (Previously presented) The article of claim 9, further comprising instructions causing a machine to:  
determine the cell count is zero.

12. (Original) The article of claim 11, wherein storing further comprises instructions causing a machine to:  
set the first address as the head address of the first queue entry; and  
link a second address to the first address of the first queue entry.

13. (Original) The article of claim 12, wherein linking comprises setting the second address as a tail address of the first queue entry.

14. (Original) The article of claim 13, further comprising instructions causing a machine to:  
link a third address to the first queue entry by storing the third address in the location indicated by the tail address.

15. (Currently amended) The article of claim 13, further comprising instructions causing a machine to:  
increment a queue count indicating the number of BDA entries included in the queue entry each time an address is linked to the first queue entry.

16. (Original) The article of claim 12, wherein the first queue entry is stored as part of a queue array having a plurality of linked queue entries.

17. (Currently amended) An apparatus, comprising:  
a first storage device for holding queue entries;  
a second storage device for holding data packets;  
a memory that stores executable instructions; and

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 5 of 12

Attorney's Docket No.: 10559-614001 / P12853

a processor that executes the instructions to:

store addresses corresponding to one of a plurality of data buffers having a corresponding number of cells in a first queue entry configured as a circular linked list comprising a plurality of Buffer Descriptor Address (BDA) entries, wherein the first BDA entry points to a subsequent BDA entry and to a final BDA entry, each of the addresses referring to a stored data buffer and including a plurality of BDA entries of the circular linked list includes one of the data buffer addresses and an associated cell count that indicates [[a]] the corresponding number of cells contained in the corresponding data buffer;

retrieve a first address from the first queue entry, and

modify the linked list of addresses of the first queue entry based on the cell count of the first address retrieved, including decrementing the cell count of the first address each time the first address is retrieved.

18. (Canceled)

19. (Previously presented) The apparatus of claim 17, wherein instructions to modify comprise instructions to:  
determine the cell count is zero.

20. (Original) The apparatus of claim 19, wherein instructions to store addresses comprises instructions to:

set the first address as the head address of the first queue entry; and  
link a second address to the first address of the first queue entry.

21. (Original) The apparatus of claim 20, wherein instructions to link comprises instructions to:

set the second address as a tail address of the first queue entry.

22. (Original) The apparatus of claim 21, further comprising instructions to:

link a third address to the first queue entry by storing the third address in the location indicated by the tail address.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 6 of 12

Attorney's Docket No.: 10559-614001 / P12853

23. (Currently amended) The apparatus of claim 21, further comprising instructions to:

increment a queue count indicating the number of BDA entries included in the queue entry each time an address is linked to the first queue entry.

24. (Original) The apparatus of claim 20, further comprising:  
a storage medium, the first queue entry being stored on the storage medium as part of a queue array having a plurality of linked queue entries.

25. (Currently amended) A processing system for managing queue entries comprising:

a processor;

a memory to store queue entries; and

a storage-medium accessible by the processor to store executable instructions, which when accessed by the processor causes the processor to:

store addresses corresponding to one of a plurality of data buffers having a corresponding number of cells in a first queue entry configured as a circular linked list comprising a plurality of Buffer Descriptor Address (BDA) entries, wherein the first BDA entry points to a subsequent BDA entry and to a final BDA entry, each of the ~~stored addresses referring to a stored data buffer and including a plurality of BDA entries of the circular linked list includes one of the data buffer addresses and an associated~~ cell count that indicates [[a]] the corresponding number of cells contained in the corresponding data buffer;

retrieve a first address from the first queue entry; and

modify the linked list of addresses of the first queue entry based on the cell count of the first address retrieved, including decrementing the cell count of the first address each time the first address is retrieved.

26. (Canceled)

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/020,815  
Filed : December 12, 2001  
Page : 7 of 12

Attorney's Docket No.: 10559-614001 / P12853

27. (Previously presented) The method of claim 25, further comprising instructions, which when accessed by the processor causes the processor to:  
determine the cell count is zero.

28. (Previously presented) The system of claim 27, wherein storing addresses further comprises:

setting the first address as the head address of the first queue entry; and  
linking a second address to the first address of the first queue entry.

29. (Previously presented) The system of claim 28, wherein linking the second address to the first address further comprises instructions, which when accessed by the processor causes the processor to:

setting the second address as a tail address of the first queue entry.

30. (Previously presented) The system of claim 29, further comprises instructions, which when accessed by the processor causes the processor to:

link a third address to the first queue entry by storing the third address in the location indicated by the tail address.

31. (Currently amended) The system of claim 29, further comprises instructions, which when accessed by the processor causes the processor to:

increment a queue count indicating the number of BDA entries in the queue entry each time an address is linked to the first queue entry.